

Message

From: MORASH, MELANIE [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C67B1B2EBFDF4795AA598EDA825F0589-MMORASH]
Sent: 11/21/2018 7:50:53 PM
To: Mora, Rebecca [Rebecca.Mora@aecom.com]
CC: Shantal Der Boghosian [shantal.derboghosian@ngc.com]; Holbrook, Holly [Holly.Holbrook@aecom.com]
Subject: RE: Submittal of Letter Addendum Work Plan for Well Installation - TRW Microwave Site (Sunnyvale, CA)

Received.

From: Mora, Rebecca <Rebecca.Mora@aecom.com>
Sent: Wednesday, November 21, 2018 10:27 AM
To: MORASH, MELANIE <morash.melanie@epa.gov>
Cc: Shantal Der Boghosian <shantal.derboghosian@ngc.com>; Holbrook, Holly <Holly.Holbrook@aecom.com>
Subject: Submittal of Letter Addendum Work Plan for Well Installation - TRW Microwave Site (Sunnyvale, CA)

Hi Melanie,

Per our email chain below, attached is a 3-page letter addendum work plan for drilling/well installation activities at the TRW Microwave site that Northrop is performing in response to EPA comments on our 2018 well installation report. The activities discussed in this letter addendum work plan are to support further evaluation of potential contaminant migration pathways, particularly at the northern area of the site.

As discussed below, we currently have this field work scheduled for December 3rd. We are hopeful that we can receive your comments/approval before that date.

We sincerely appreciate your understanding and flexibility. Have a wonderful Thanksgiving!

Rebecca

Rebecca Mora
Senior Technical Leader/Project Manager, Environment
D 714.689.7254
rebecca.mora@aecom.com

AECOM
999 W. Town and Country Rd., Orange, CA, 92868-4713
T 714.567.2400
www.aecom.com

This electronic communication, which includes any files or attachments thereto, contains proprietary or confidential information and may be privileged and otherwise protected under copyright or other applicable intellectual property laws. All information contained in this electronic communication is solely for the use of the individual(s) or entity to which it was addressed. If you are not the intended recipient(s), you are hereby notified that distributing, copying, or in any way disclosing any of the information in this e-mail is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately, and destroy the communication and any files or attachments in their entirety, whether in electronic or hard copy format. Since data stored on electronic media can deteriorate, be translated or modified, AECOM, its subsidiaries, and/or affiliates will not be liable for the completeness, correctness or readability of the electronic data. The electronic data should be verified against the hard copy.

Please consider the environment before printing this e-mail.

From: MORASH, MELANIE [<mailto:morash.melanie@epa.gov>]
Sent: Monday, November 19, 2018 2:36 PM
To: Mora, Rebecca
Cc: Holbrook, Holly; Shantal Der Boghosian
Subject: RE: EPA Review of AECOM's Response to EPA Comments - 2017 Annual Groundwater Monitoring and Remedial Progress Report - TRW Microwave Site (Sunnyvale, CA)

Yes. Thank you for the update.

ED_006475B_00000187-00001

From: Mora, Rebecca <Rebecca.Mora@aecom.com>
Sent: Monday, November 19, 2018 11:35 AM
To: MORASH, MELANIE <morash.melanie@epa.gov>
Cc: Holbrook, Holly <Holly.Holbrook@aecom.com>; Shantal Der Boghosian <shantal.derboghosian@ngc.com>
Subject: RE: EPA Review of AECOM's Response to EPA Comments - 2017 Annual Groundwater Monitoring and Remedial Progress Report - TRW Microwave Site (Sunnyvale, CA)

Hi Melanie,

I hope you are well. I just wanted to provide you with an update on the email below. We are planning to get you the short work plan for this upcoming field work early next week and we currently have the drillers and field staff planned to drill starting December 3. I realize it is tight, but hopefully possible? Please let us know your thoughts.

Thank you in advance!

Rebecca

Rebecca Mora
Senior Technical Leader/Project Manager, Environment
D 714.689.7254
rebecca.mora@aecom.com

AECOM
999 W. Town and Country Rd., Orange, CA, 92868-4713
T 714.567.2400
www.aecom.com

This electronic communication, which includes any files or attachments thereto, contains proprietary or confidential information and may be privileged and otherwise protected under copyright or other applicable intellectual property laws. All information contained in this electronic communication is solely for the use of the individual(s) or entity to which it was addressed. If you are not the intended recipient(s), you are hereby notified that distributing, copying, or in any way disclosing any of the information in this e-mail is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately, and destroy the communication and any files or attachments in their entirety, whether in electronic or hard copy format. Since data stored on electronic media can deteriorate, be translated or modified, AECOM, its subsidiaries, and/or affiliates will not be liable for the completeness, correctness or readability of the electronic data. The electronic data should be verified against the hard copy.

Please consider the environment before printing this e-mail.

From: MORASH, MELANIE [<mailto:morash.melanie@epa.gov>]
Sent: Friday, November 02, 2018 12:36 PM
To: Mora, Rebecca
Subject: RE: EPA Review of AECOM's Response to EPA Comments - 2017 Annual Groundwater Monitoring and Remedial Progress Report - TRW Microwave Site (Sunnyvale, CA)

Good morning,

I saw that you called but I am rushing into a meeting.

Briefly, yes – we will expedite review of your workplan to facilitate your Nov drilling schedule.

Regarding the gw monitoring, please prepare and submit a technical memo with justification for any proposed reductions in sampling type/frequency, so that we can formally approve.

Sincerely,

Melanie

From: Mora, Rebecca <Rebecca.Mora@aecom.com>
Sent: Friday, November 2, 2018 9:33 AM

To: MORASH, MELANIE <morash.melanie@epa.gov>

Subject: RE: EPA Review of AECOM's Response to EPA Comments - 2017 Annual Groundwater Monitoring and Remedial Progress Report - TRW Microwave Site (Sunnyvale, CA)

Hi Melanie,

I just left you a voicemail. I misspoke in my voicemail. We are hoping to get to the field in the second half of November and would likely get you the letter work plan in the next couple of weeks.

Thank you and I look forward to talking with you.

Rebecca

Rebecca Mora

Senior Technical Leader/Project Manager, Environment

D 714.689.7254

rebecca.mora@aecom.com



999 W. Town and Country Rd., Orange, CA, 92868-4713

T 714.567.2400

www.aecom.com

This electronic communication, which includes any files or attachments thereto, contains proprietary or confidential information and may be privileged and otherwise protected under copyright or other applicable intellectual property laws. All information contained in this electronic communication is solely for the use of the individual(s) or entity to which it was addressed. If you are not the intended recipient(s), you are hereby notified that distributing, copying, or in any way disclosing any of the information in this e-mail is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately, and destroy the communication and any files or attachments in their entirety, whether in electronic or hard copy format. Since data stored on electronic media can deteriorate, be translated or modified, AECOM, its subsidiaries, and/or affiliates will not be liable for the completeness, correctness or readability of the electronic data. The electronic data should be verified against the hard copy.

Please consider the environment before printing this e-mail.

From: MORASH, MELANIE [<mailto:morash.melanie@epa.gov>]

Sent: Wednesday, October 24, 2018 1:51 PM

To: Mora, Rebecca; Shantal Der Boghosian

Cc: Shaffer, Caleb; Levine, Herb; Holbrook, Holly; Woo, Cynthia; Perkins, James

Subject: EPA Review of AECOM's Response to EPA Comments - 2017 Annual Groundwater Monitoring and Remedial Progress Report - TRW Microwave Site (Sunnyvale, CA)

Good morning, Rebecca,

Thank you for submitting a response-to-comments letter, responding to EPA's comments on AECOM's 2017 Annual Groundwater Monitoring and Remedial Progress Report for the TRW Microwave Site in Sunnyvale, CA. This e-mail communicates EPA's concurrence with your responses and planned revisions to the annual report. Please submit a revised report by November 30, 2018.

One note regarding your response to comment #6 – any proposed reduction in EAB monitoring will require EPA approval.

Sincerely,

Melanie

Melanie Morash, Project Manager

California Site Cleanup Section I, Superfund Division

US EPA Region 9

75 Hawthorne Street (SFD-7-1)

ED_006475B_00000187-00003

San Francisco, CA 94105

(415) 972-3050 [phone]
morash.melanie@epa.gov

From: Mora, Rebecca [<mailto:Rebecca.Mora@aecom.com>]

Sent: Tuesday, October 9, 2018 10:39 AM

To: MORASH, MELANIE <morash.melanie@epa.gov>; Shantal Der Boghosian <shantal.derboghosian@ngc.com>

Cc: Shaffer, Caleb <Shaffer.Caleb@epa.gov>; Levine, Herb <Levine.Herb@epa.gov>; Holbrook, Holly <Holly.Holbrook@aecom.com>

Subject: RE: EPA Comments - 2017 Annual Groundwater Monitoring and Remedial Progress Report for the Former TRW Microwave Site

Hi Melanie,

Attached are our responses to EPA's comments on the 2017 Annual Groundwater Monitoring and Remedial Progress Report for the TRW Microwave Site. Per the responses, Figure 7 was modified and is also attached. Please let us know if you have any questions on the responses.

Once you review the responses, please let us know if they are approved and then we will submit a revised report.

Thank you very much!
Rebecca

Rebecca Mora

Senior Technical Leader/Project Manager, Environment
D 714.689.7254
rebecca.mora@aecom.com



999 W. Town and Country Rd., Orange, CA, 92868-4713
T 714.567.2400
www.aecom.com

This electronic communication, which includes any files or attachments thereto, contains proprietary or confidential information and may be privileged and otherwise protected under copyright or other applicable intellectual property laws. All information contained in this electronic communication is solely for the use of the individual(s) or entity to which it was addressed. If you are not the intended recipient(s), you are hereby notified that distributing, copying, or in any way disclosing any of the information in this e-mail is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately, and destroy the communication and any files or attachments in their entirety, whether in electronic or hard copy format. Since data stored on electronic media can deteriorate, be translated or modified, AECOM, its subsidiaries, and/or affiliates will not be liable for the completeness, correctness or readability of the electronic data. The electronic data should be verified against the hard copy.

Please consider the environment before printing this e-mail.

From: MORASH, MELANIE [<mailto:morash.melanie@epa.gov>]

Sent: Friday, August 24, 2018 8:03 AM

To: Mora, Rebecca; Shantal Der Boghosian

Cc: Shaffer, Caleb; Levine, Herb

Subject: EPA Comments - 2017 Annual Groundwater Monitoring and Remedial Progress Report for the Former TRW Microwave Site

Dear Shantal and Rebecca,

Thank you for submitting the *Annual Groundwater Monitoring and Remedial Progress Report, Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California* (Report), prepared by AECOM Inc. (AECOM), dated May 3, 2018. The

Report was prepared on behalf of Northrop Grumman Systems Corporation (Northrop). The Report presents the results of the groundwater monitoring program and summarizes the remedial activities conducted at the TRW Site in 2017.

General Comments:

EPA appreciates the groundwater monitoring work that Northrop and AECOM are conducting, in association with the long-term cleanup activities at the TRW Site. The Report's summary of the monitoring results of groundwater parameters indicates that remedial efforts continue to reduce contaminant mass at the TRW Site.

Specific Comments:

1. Section 3.1, Page 7, Second paragraph – Groundwater movement in groundwater Zone B2 is reported to the northwest based upon the potentiometric surface presented on Figure 7. However, the orientation of channelized flow is shown as trending north/northeast, which is consistent with the elevated levels of trichloroethene (TCE) in well T-10C. The groundwater flow direction mentioned in the text and as depicted on Figure 7 should be toward the north/northwest consistent with the trends of the preferred pathways and similar to that described for hydrostratigraphic units (HSUs) A and B1.
2. Section 3.1, Page 7, Third paragraph – Changes in groundwater elevations, as presented, have no relevance if such changes are an artifact of changes in the benchmark survey conducted in January 2018. Stated changes in the elevation of the groundwater surfaces should reflect only subsurface conditions to allow for correct comparison of historical elevations.
3. Section 3.2.1, Zone A – Presented historical concentration ranges do not reference the time range. EPA recommends adding the time range, similar to the discussion for Zone B1.
4. Section 3.2.2, Page 11, EAB Parameters, Last full sentence – Clarify punctuation in sentence to eliminate stating that the injection wells were injected with low dissolved oxygen concentrations.
5. Section 4.0, Page 13, Last bullet – Clarify the statement to indicate that the referred activities have resulted in destruction of [some (or much) of] TCE mass associated with the former TRW Site source area. What amount of mass volume is being referred to?
6. Section 4.0, Page 14, First bullet – The statement of *the existence on-site of a viable ongoing mechanism for ongoing contaminant mass reduction* appears to be contrary to the previous statement that *low TOC concentrations and microbial populations do not support annual monitoring*. Depleted organic carbon, very low DHC concentrations, detection of ethene only at trace concentrations, and increasing TCE concentrations at wells T-13A and T-14A indicate that mass reduction is not progressing. EPA understands that TCE concentrations in wells T-13A and T-14A are affected by the onsite migration of elevated TCE from an upgradient source. It is assumed that the intent of this bullet is to provide support of the proposed discontinuation of annual EAB monitoring. If so, EPA is open to discuss a reduction in annual EAB monitoring.
7. Section 4.0, Page 14, Recommendations, Fourth bullet – See EPA's August 24, 2018 set of technical comments regarding the proposed destruction of well T-9B. Impact of the two gravel layers within the well screen should be explored further.

Figures and Tables Comments:

1. Table 3 – Please clarify in notes the data qualifiers, F1, F2, and H.
2. Appendix C, Well T-9B results – Two data lines above Oct-17 are identified as Jan-17 and another Jan-17. Please clarify this data.

Next Steps:

Please review EPA's comments and submit a response-to-comments letter by October 31, 2018.

Sincerely,

Melanie

Melanie Morash, Project Manager
California Site Cleanup Section I, Superfund Division

US EPA Region 9
75 Hawthorne Street (SFD-7-1)
San Francisco, CA 94105

(415) 972-3050 [phone]
morash.melanie@epa.gov

References:

AECOM, 2018, *Annual Groundwater Monitoring and Remedial Progress Report, Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California Well Installation Report, Former TRW Microwave Site, 825 Stewart Drive, Sunnyvale, California*. May.

From: Rebecca.Mora@aecom.com [mailto:Rebecca.Mora@aecom.com]

Sent: Thursday, May 3, 2018 2:41 PM

To: MORASH, MELANIE <morash.melanie@epa.gov>

Subject: Submittal of the 2017 Annual Groundwater Monitoring and Remedial Progress Report for the Former TRW Microwave Site

Rebecca Mora has sent you 1 file using AECOM's File Transfer System.

Rebecca Mora says:

On behalf of Northrop Grumman, this is an email from AECOM SendFiles for you to download the 2017 Annual Groundwater Monitoring and Remedial Progress Report for the Former TRW Microwave site (22MB file). This is not to be confused with the Well Installation Report sent earlier via email.

Please let us know if you have any issues downloading the report.

Thank you,
Rebecca

This file will be available for download until 5/10/2018

| <u>File</u> | <u>Description</u> | <u>Size</u> |
|---|--------------------|-------------|
| 2018-0503-Microwave-Annual GWM Report_Final.pdf | | 22,321KB |

[Download all files \(.zip\)](#)

If you are having trouble accessing the links in this email, you can view this message as a web page by copying the following link and pasting it into your browser:

<https://sendfiles.aecom.com/message.aspx?msgId=badfaadb-071f-46c0-a465-73196122cb1a>

If you have any questions, please contact your project manager.